WE CLAIM:

1. A system for monitoring vapor recovery in a liquid fuel dispensing facility having at least one fuel dispensing point connected to a main fuel storage system by a means for supplying liquid fuel to the dispensing point and a means for returning vapor from the dispensing point, said monitoring system comprising:

a vapor flow sensor operatively connected to the means for returning vapor and adapted to indicate the amount of vapor flow through the means for returning vapor;

a liquid fuel dispensing meter operatively connected to the means for supplying liquid fuel and adapted to indicate the amount of liquid fuel dispensed through the at least one fuel dispensing point; and

a central electronic control and diagnostic arrangement having,

a means for determining a ratio of vapor flow to dispensed liquid fuel for the at least one fuel dispensing point, said determining means receiving dispensed liquid fuel amount information from the liquid fuel dispensing meter and receiving vapor flow amount information from the vapor flow sensor,

wherein the acceptability of vapor recovery for the fuel dispensing point is determined by said ratio of vapor flow to dispensed liquid fuel.

2. The monitoring system of Claim 1 including at least two fuel dispensing points for each vapor flow sensor in the system.

3. The monitoring system of Claim 1 wherein the means for returning vapor comprises a vapor return pipeline, and wherein said vapor return pipeline is operatively connected to the vapor flow sensor.

4. The monitoring system of Claim 1 wherein the means for returning vapor comprises one or more vapor return pipelines, and wherein each vapor return pipeline is connected to a plurality of vapor return passages that are connected to a respective plurality of fuel dispensing points.

5. The monitoring system of Claim 4 wherein each vapor return pipeline is operatively connected to a separate vapor flow sensor.

6. The monitoring system of Claim 1 wherein the amount of vapor flow indicates vapor volume.

7. The monitoring system of Claim 1 wherein the amount of liquid fuel dispensed indicates liquid fuel volume.

8. The monitoring system of Claim 1 further comprising an automatic tank gauging system operatively connected to the central control and diagnostic arrangement.

9. The monitoring system of Claim 1 wherein the central control and diagnostic arrangement further comprises means for determining the loss of vapor through the fuel dispensing point to atmosphere.

10. The monitoring system of Claim 1, further comprising means for monitoring vapor containment in the vapor containing elements of the liquid fuel dispensing facility, said means for monitoring vapor containment being operatively connected to any vapor containing element of the liquid fuel dispensing facility and the central electronic control and diagnostic arrangement.

11. The monitoring system of Claim 10 wherein the means for monitoring vapor containment includes:

a vent pipe-pressure relief valve arrangement connecting one or more vapor containing elements of the liquid fuel dispensing facility to atmosphere;

a pressure sensor operatively connected to the vent pipe;

a vapor processor operatively connected to the vent pipe; and

means for determining the acceptability of vapor containment incorporated into the central electronic control and diagnostic arrangement, said means for determining acceptability of vapor containment being operatively connected to the pressure sensor to receive pressure level information therefrom and being operatively connected to the

vapor processor to selectively cause the vapor processor to draw a negative pressure in the main fuel storage system.

12. A system for monitoring vapor recovery in a liquid fuel dispensing facility having at least two fuel dispensing points connected to a main fuel storage system by a vapor return pipeline, said monitoring system comprising:

a vapor flow sensor operatively connected to the vapor return pipeline;

means for determining dispensed liquid fuel amount information for each fuel dispensing point; and

a means for determining a ratio of vapor flow to dispensed liquid fuel for the fuel dispensing points based on vapor flow sensor readings and dispensed liquid fuel amount information,

wherein the acceptability of vapor recovery for the fuel dispensing points is determined by said ratio of vapor flow to dispensed liquid fuel.

13. The monitoring system of Claim 12, further comprising means for monitoring vapor containment in the vapor containing elements of the liquid fuel dispensing facility, said means for monitoring vapor containment being operatively connected to any vapor containing element of the liquid fuel dispensing facility.

14. A method of monitoring vapor recovery in a liquid fuel dispensing facility having at least one fuel dispensing point connected to a main fuel storage system by a means for supplying liquid fuel to the dispensing point and a means for returning vapors from the dispensing point, said monitoring method comprising the steps of:

determining at multiple times an amount of vapor flow through the means for returning vapors;

determining at multiple times an amount of liquid fuel dispensed through the means for supplying liquid fuel; and

determining a ratio of vapor flow to dispensed liquid fuel for the fuel dispensing point based on the amount of vapor flow through the means for returning vapors and the amount of liquid fuel dispensed through the means for supplying liquid fuel,

wherein the acceptability of vapor recovery for the fuel dispensing point is determined by said ratio of vapor flow to dispensed liquid fuel.

15. The method of Claim 14 wherein the multiple times of determining the amount of vapor flow and the multiple times of determining the amount of liquid fuel dispensed correspond to each other.

16. The method of Claim 14 wherein a ratio of vapor flow to dispensed liquid fuel that is repeatedly determined to be less than 1 for a dispensing point indicates a path restriction in an element associated with the dispensing point.

17. The method of Claim 14 wherein a ratio of vapor flow to dispensed liquid fuel that is repeatedly determined to be greater than 1 for all dispensing points other than a selected dispensing point indicates that the selected dispensing point leaks vapor to atmosphere during idle periods.

18. The method of Claim 14 wherein the amount of vapor flow indicates vapor volume.

19. The method of Claim 14 wherein the amount of liquid fuel dispensed indicates liquid fuel volume.

20. The method of Claim 14 further comprising the step of determining the loss of vapor through the fuel dispensing point to atmosphere.

21. The method of Claim 14, wherein the liquid fuel dispensing facility further comprises a vent pipe-pressure relief valve arrangement connecting the vapor containing elements of the facility to atmosphere, and further comprising the following steps of monitoring vapor containment in the vapor containing elements of the facility:

identifying the start of an idle period for the liquid fuel dispensing facility;

monitoring the liquid fuel dispensing facility to confirm maintenance of the idle period;

determining whether pressure in at least one of the vapor containing elements of the facility is equal to or below a minimum level;

selectively adjusting pressure in the vapor containing elements of the facility to a preset lower level when the previously determined pressure is above the minimum level;

monitoring variation of the pressure in at least one of the vapor containing elements of the facility during the remainder of the idle period;

determining the end of the idle period; and

determining the acceptability of vapor containment in the vapor containing elements of the facility based on the variation of the pressure during the idle period.

22. A system for monitoring vapor containment in a liquid fuel dispensing facility having a main fuel storage system connected by a vent pipe-pressure relief valve arrangement to atmosphere, said monitoring system comprising:

a pressure sensor operatively connected to the vent pipe;

a vapor processor operatively connected to the vent pipe; and

means for determining the acceptability of vapor containment in the main fuel storage system, said determining means being operatively connected to the pressure sensor to receive pressure level information therefrom and being operatively connected to the vapor processor to selectively cause the vapor processor to draw a negative pressure in the main fuel storage system.

23. A method of monitoring vapor containment in a liquid fuel dispensing facility having at least one main fuel storage tank connected by a vent pipe-pressure relief valve arrangement to atmosphere, said monitoring method comprising the steps of:

identifying the start of an idle period for the liquid fuel dispensing facility;

monitoring the liquid fuel dispensing facility to confirm maintenance of the idle period;

determining whether pressure in the main fuel storage tank is equal or below a minimum level;

selectively adjusting pressure in the main fuel storage tank to a preset lower level when the previously determined pressure is above the minimum level;

monitoring variation of the pressure in the main fuel storage tank during the remainder of the idle period;

determining the end of the idle period; and

determining the acceptability of vapor containment in the main fuel storage tank based on the variation of the pressure during the idle period.

24. The method of Claim 23 wherein the minimum level is in the range of -2 to -3 inches water column.

25. The method of Claim 23 further comprising the step of monitoring vapor flow in a vapor containing elements of the facility during the idle period; and

determining malfunctioning dispensing points based on vapor flow information.

26. The method of Claim 14 further comprising a method of determining vapor recovery system failures associated with a single fuel dispensing point, said method of determining vapor recovery system failures comprising the steps of:

determining the vapor flow to dispensed fuel ratios for a plurality of fuel dispensing points;

determining the number of vapor flow to dispensed fuel ratios that are below a preset minimum for each of the plurality of fuel dispensing points;

determining the average number of vapor flow to dispensed fuel ratios below the preset minimum for the plurality of fuel dispensing points; and

comparing the number of vapor flow to dispensed fuel ratios below the preset minimum for each of the plurality of fuel dispensing points to the average number of vapor flow to dispensed fuel ratios below the present minimum to determine whether the vapor recovery system associated with each of the plurality of fuel dispensing points has failed.

27. The method of Claim 21 further comprising the method of determining vapor recovery system failures associated with a single fuel dispensing point, said method of determining vapor recovery system failures comprising the steps of:

determining the vapor flow to dispensed fuel ratios for a plurality of fuel dispensing points;

determining the number of vapor flow to dispensed fuel ratios that are below a preset minimum for each of the plurality of fuel dispensing points;

determining the average number of vapor flow to dispensed fuel ratios below the preset minimum for the plurality of fuel dispensing points; and

comparing the number vapor flow to dispensed fuel ratios below the preset minimum for each of the plurality of fuel dispensing points to the average number of vapor flow to dispensed fuel ratios below the present minimum to determine whether the vapor recovery system associated with each of the plurality of fuel dispensing points has failed.

28. The method of Claim 14 further comprising the method of determining vapor recovery system failures associated with a single fuel dispensing point, said method of determining vapor recovery system failures comprising the steps of:

determining the vapor flow to dispensed fuel ratios for a plurality of fuel dispensing points;

determining the number of vapor flow to dispensed fuel ratios that are below a preset minimum for each of the plurality of fuel dispensing points;

determining the average number of vapor flow to dispensed fuel ratios below the preset minimum for the plurality of fuel dispensing points; and

comparing the number vapor flow to dispensed fuel ratios below the preset minimum for each of the plurality of fuel dispensing points to the average number of vapor flow to dispensed fuel ratios below the present minimum to determine whether the vapor recovery system associated with each of the plurality of fuel dispensing points has failed.

29. A method of determining vapor recovery system failures associated with a single fuel dispensing point, said method comprising the steps of:

determining the vapor flow to dispensed fuel ratios for a plurality of fuel dispensing points;

determining the number of vapor flow to dispensed fuel ratios that are below a preset minimum for each of the plurality of fuel dispensing points;

determining the average number of vapor flow to dispensed fuel ratios below the preset minimum for the plurality of fuel dispensing points; and

comparing the number vapor flow to dispensed fuel ratios below the preset minimum for each of the plurality of fuel dispensing points to the average number of vapor flow to dispensed fuel ratios below the present minimum to determine whether

the vapor recovery system associated with each of the plurality of fuel dispensing points has failed.

30. A system for monitoring vapor recovery in a liquid fuel dispensing facility comprising:

a fuel dispensing point;

a fuel storage tank;

means for supplying liquid fuel from the fuel storage tank to the fuel dispensing point;

means for returning vapor from the fuel dispensing point to the fuel storage tank;

a vapor flow sensor operatively connected to the means for returning vapor and adapted to indicate the amount of vapor flow through the means for returning vapor;

a liquid fuel dispensing meter operatively connected to the means for supplying liquid fuel and adapted to indicate the amount of liquid fuel dispensed through the fuel dispensing point; and

means for determining a ratio of vapor flow to dispensed liquid fuel for the fuel dispensing point, said determining means receiving dispensed liquid fuel amount information from the liquid fuel dispensing meter and receiving vapor flow amount information from the vapor flow sensor.

31. A vapor recovery monitoring system that monitors vapor recovered during refueling of a vehicle and returned back to an underground storage tank in a service station environment, comprising:

a plurality of fuel dispensing points that deliver fuel from the underground storage tank to the vehicle, wherein said plurality of fuel dispensing points each include at least one meter that measures the amount of fuel flow delivered;

at least one vapor flow sensor operatively connected to a vapor return line to measure the amount of vapor flow being returned back to the underground storage tank from at least two of said plurality of fuel dispensing points, wherein the number of said at least one vapor flow sensors is less that the number of said plurality of fuel dispensing points;

a central electronic control that receives information relating to said amount of fuel flow delivered by said plurality of fuel dispensing points and receives information from said vapor flow sensor relating to said amount of vapor flow recovered by said plurality of fuel dispensing points, wherein said central electronic control is capable of determining a ratio of vapor flow to fuel flow for each of said fuel dispensing points.

32. The system of claim 31, wherein said vapor return line is a vapor return pipeline common to all of said plurality of fuel dispensing points and said at least one vapor flow sensor is only one vapor flow sensor that measures vapor flow from all of said plurality of fuel dispensing points.

33. The system of claim 31, wherein said vapor return line is a vapor return passage.

34. The system of claim 31, wherein said central electronic control receives information relating to said amount of fuel flow delivered by said plurality of fuel dispensing points from a dispenser controller.

35. The system of claim 31, wherein said central electronic control receives information relating to said amount of vapor flow from a dispenser controller.

36. The system of claim 31, wherein said central electronic control receives information relating to said amount of fuel flow delivered by said plurality of fuel dispensing points directly from each of said at least one meter.

37. The system of claim 31, wherein said central electronic control receives information relating to said amount of vapor flow directly from each of said at least one vapor flow sensor.

38. The system of claim 31, wherein said central electronic control determines if said ratio of vapor flow to fuel flow is within an acceptable range.

39. The system of claim 38, wherein said central electronic control generates a signal when said ratio of vapor flow to fuel flow is not within an acceptable range.

40. The system of claim 39, wherein said signal is comprised from the group consisting of a visual signal and an audio signal.

41. The system of claim 38, wherein said central electronic control causes one or more of said plurality of fuel dispensing points be inactive if said ratio of vapor flow to fuel flow is not within an acceptable range.

42. The system of claim 31, wherein said central electronic control includes a visual display that visually indicates said ratio of vapor flow to fuel.

43. The system of claim 31, wherein said central electronic control includes memory that records measurements of said ratio of vapor flow to fuel flow.

44. The system of claim 31, wherein said central electronic control determines said ratio of vapor flow to fuel flow for one of said plurality of fuel dispensing points by

dividing said amount of vapor flow by said amount of fuel flow when only one of said plurality of fuel dispensing points is active.

45. The system of claim 44, wherein said central electronic control determines said ratio of vapor flow to fuel flow after each of said plurality of fuel dispensing points are idle.

46. The system of claim 45, wherein said central electronic control determines when said plurality of fuel dispensing points are idle by either monitoring a dispenser loop or a fuel level in the underground storage tank.

47. The system of claim 31, wherein said central electronic control determines said ratio of vapor flow to fuel flow of said plurality of fuel dispensing points by forming a generalized equation for the relationship between vapor flow, fuel flow, and the ratio of vapor flow to fuel flow, for each active fuel dispensing point in said plurality of fuel dispensing points and solves each of said generalized equations for said ratio of fuel flow to vapor flow for all active said plurality of fuel dispensing points.

48. The system of claim 47, wherein said generalized equation is in the form of $R = (L^T L)^{-1} L^T A$.

49. The system of claim 31, wherein said central electronic control determines if a fuel dispensing point in a group of said plurality of fuel dispensing points, wherein said group share a common vapor flow sensor, has a failure by determining said vapor flow to fuel flow ratio for each of said fuel dispensing points in said group, determining which of said ratios in said group are below a preset minimum, and determining which of vapor flow to fuel flow ratios in said group do not lower in value.

50. The system of claim 49, wherein said failure is comprised from the group consisting of a blockage in one of said plurality of fuel dispensing points in said group,

and a leak in said vapor return line of one of said plurality of fuel dispensing points in said group.

51. The system of claim 31, wherein said central electronic control determines if a fuel dispensing point has a failure by determining said vapor flow to fuel flow ratio for each of said plurality of fuel dispensing points, determining which of said ratios for each of said plurality of fuel dispensing points are below a preset minimum, determining the average number of said ratios for each of said plurality of fuel dispensing points below said preset minimum, and comparing the number of said ratios below the preset minimum for each of said plurality of fuel dispensing points to said average number to determine if any of each of said plurality of fuel dispensing points has failed.

52. The system of claim 31, wherein said central electronic control determines if a vapor valve in a vapor return line has failed by determining if said vapor flow sensor indicates a flow when none of said plurality of fuel dispensing points are active.

53. The system of claim 31, wherein said central electronic control determines if a fuel dispensing point that services ORVR-equipped vehicles has failed by

(a) determining the vapor flow to fuel flow ratios for each of said plurality of dispensing points;

(b) categorizing each of said ratios as either being (1) below a preset minimum value or (2) above or equal to said preset minimum value;

(c) comparing each of said ratios below said preset minimum value, and above or equal to same preset minimum value to respective expected values for each and determining the individual proportional differences between each of said ratios below said preset minimum value, and above or equal to same preset minimum value to said respective expected values;

(d) combining said individual proportional differences; and

(e) comparing said individual proportional differences to a critical threshold value to determine if one of said fuel dispensing points has a failure.

54. The system of claim 53, wherein said combining said individual proportional differences is calculated according to the formula $X^2 = \Sigma (Oi - Ei)^2 / Ei$.

55. The system of claim 54, wherein said comparing said individual proportional differences to a critical threshold value to determine if one of said fuel dispensing points has a failure is calculated using a Chi-squared statistical table.

56. The system of claim 31, wherein said central electronic control determines if a fuel dispensing point that services ORVR-equipped vehicles has failed by determining if said vapor flow to fuel flow ratio for each of said plurality of fuel dispensing points that are below a preset minimum value are statistically different from the proportion of said vapor flow to fuel flow ratios for all of said plurality of fuel dispensing points that are below said preset minimum value.

57. The system of claim 31, further comprising:

a vent pipe-pressure relief valve arrangement connecting one or more vapor containing elements of the liquid fuel dispensing facility to atmosphere;

a pressure sensor operatively connected to said vent pipe, and operatively connected to said central electronic control to receive pressure level information in the underground storage tank; and

a vapor processor operatively connected to said vent pipe, and operatively connected to said central electronic control to control the operation of said vapor processor;

wherein said central electronic control causes said vapor processor to selectively draw a negative pressure into the underground storage tank.

58. The system of claim 57, wherein said central electronic control:

(a) identifies the start of an idle period for each of said plurality of fuel dispensing points;

(b) determines whether pressure in the underground storage tank is equal to or below a minimum level;

(c) selectively adjusts pressure in the underground storage tank to a preset lower level when the previously determined pressure is above the minimum level;

(d) monitors variation of the pressure in underground storage tank during the remainder of the idle period;

(e) determines the end of said idle period; and

(f) determines the acceptability of vapor containment in the underground storage tank based on the variation of said pressure during said idle period.

59. The method of claim 31, wherein said central electronic control

(a) determines at multiple times said amount of vapor flow;

(b) determines at multiple times said amount of fuel flow;

(c) performs said calculation of said ratio of said vapor flow to said fuel flow for each measurement in (a) and (b); and

(d) determines if said ratio of vapor flow to fuel flow for each of said calculations in (c) is within an acceptable range.

60. A method of monitoring a vapor recovery system that recovers vapors expelled from a vehicle during refueling and returns the vapors back to an underground storage tank in a service station environment, comprising:

measuring the amount of fuel flow delivered to the vehicle at a plurality of fuel dispensing points;

measuring the amount of vapor flow recovered at said plurality of fuel dispensing points using at least one vapor flow sensor wherein the number of said at least one vapor flow sensors is less that the number of said plurality of fuel dispensing points;

calculating a ratio of said vapor flow to said fuel flow for each of said plurality fuel dispensing points; and

determining if said calculated ratio of said vapor flow to said fuel flow for each of said plurality of fuel dispensers is within an acceptable range.

61. The method of claim 60, wherein said step of determining is performed by a central electronic control.

62. The method of claim 61, wherein said step of measuring is performed in a vapor return pipeline common to all of said plurality of fuel dispensing points.

63. The method of claim 61, wherein said step of measuring is performed in a vapor return passage.

64. The method of claim 61, wherein said step of measuring the amount of fuel flow is performed by receiving information from meters that measure the amount of fuel flow for each of said plurality of fuel dispensing points.

65. The method of claim 61, further comprising the step of generating a signal when said ratio of vapor flow to fuel flow is not within said acceptable range.

66. The method of claim 61, further comprising the step of deactivating any of said plurality of fuel dispensing points that have a ratio of vapor flow to fuel flow determined to not be within said acceptable range.

67. The method of claim 60, further comprising the step of recording the measurements of said ratio of vapor flow to fuel flow in a memory.

68. The method of claim 60, wherein said step of calculating comprises dividing said amount of vapor flow by said amount of fuel flow when only one of said plurality of fuel dispensing points is active.

69. The method of claim 68, wherein said step of calculating is performed after each of said plurality of fuel dispensing points are idle.

70. The method of claim 69, wherein said step of calculating further comprises determining when said plurality of fuel dispensing points are idle by either monitoring the dispenser loop or the fuel level in the underground storage tank.

71. The method of claim 60, wherein said step of calculating comprises:

forming a generalized equation for the relationship between vapor flow, fuel flow, and the ratio of vapor flow to fuel flow, for each active fuel dispensing point in said plurality of fuel dispensing points; and

solving each of said generalized equations for said ratio of fuel flow to vapor flow for all active said plurality of fuel dispensing points.

72. The method of claim 71, wherein said generalized equation is in the form of $R = (L^T L)^{-1} L^T A$.

73. The method of claim 60, further comprising determining if a fuel dispensing point in a group of said plurality of fuel dispensing points, wherein said group share a common vapor flow sensor, has a failure , comprising the steps of:

determining said vapor flow to fuel flow ratio for each of said fuel dispensing points in said group;

determining which of said ratios in said group are below a preset minimum; and determining which of vapor flow to fuel flow ratios in said group do not lower in value.

74. The method of claim 60, further comprising determining if a fuel dispensing point has a leak, comprising the steps of:

calculating said vapor flow to fuel flow ratio for each of said plurality of fuel dispensing points;

determining which of said ratios for each of said plurality of fuel dispensing points are below a preset minimum;

determining the average number of said ratios for each of said plurality of fuel dispensing points below said preset minimum; and

comparing the number of said ratios below the preset minimum for each of said plurality of fuel dispensing points to said average number to determine if with each of said plurality of fuel dispensing points has failed.

75. The method of claim 60, wherein said vapor flow is recovered in a vapor return path, and further comprising determining if said vapor flow is present in said vapor return path when none of said plurality of fuel dispensing points are active to determine if the vapor return path has failed.

76. The method of claim 60, wherein said central electronic control determines if a fuel dispensing point that services ORVR-equipped vehicles has failed, comprising the step of:

determining the vapor flow to fuel flow ratios for each of said plurality of dispensing points;

categorizing each of said ratios as either being (1) below a preset minimum value or (2) above or equal to said preset minimum value;

comparing each of said ratios below said preset minimum value, and above or equal to same preset minimum value to respective expected values for each and determining the individual proportional differences between each of said ratios below said preset minimum value, and above or equal to same preset minimum value to said respective expected values;

combining said individual proportional differences; and

comparing said individual proportional differences to a critical threshold value to determine if one of said fuel dispensing points has a failure.

77. The method of claim 60, wherein said central electronic control determines if a fuel dispensing point that services ORVR-equipped vehicles has failed, comprising the step of determining if said vapor flow to fuel flow ratio for each of said plurality of fuel

dispensing points that are below a preset minimum value are statistically different from the proportion of said vapor flow to fuel flow ratios for all of said plurality of fuel dispensing points that are below said preset minimum value.

78. The method of claim 60, further comprising the steps of

monitoring the pressure level in the underground storage tank; and

selectively drawing a negative pressure into underground storage tank fuel when said pressure level is above a desired threshold pressure value.

79. The method of claim 60, further comprising the steps of:

identifying the start of an idle period for each of said plurality of fuel dispensing points;

determining whether pressure in the underground storage tank is equal to or below a minimum level;

selectively adjusting pressure in the underground storage tank to a preset lower level when the previously determined pressure is above the minimum level;

monitoring variation of the pressure in underground storage tank during the remainder of the idle period;

determining the end of said idle period; and

determining the acceptability of vapor containment in the underground storage tank based on the variation of said pressure during said idle period.

80. The method of claim 60, further comprising the steps of:

(a) determining at multiple times said amount of vapor flow;

(b) determining at multiple times said amount of fuel flow;

(c) performing said calculation of said ratio of said vapor flow to said fuel flow for each measurement in steps (a) and (b); and

(d) determining if said ratio of vapor flow to fuel flow for each of said calculations in step (c) is within an acceptable range.

81. The system of claim 31, wherein said central electronic control registers a leak in a fuel dispensing point within a group of said plurality of fuel dispensing points, wherein said group shares a common vapor flow sensor, if said common vapor flow sensor registers a reverse vapor flow when said group of said plurality of fuel dispensing points is idle.

82. The method of claim 60, further comprising registering a leak in a fuel dispensing point in a group of said plurality of fuel dispensing points, wherein said group shares a common vapor flow sensor, if said common vapor flow sensor registers a reverse vapor flow when said group of said plurality of fuel dispensing points is idle.

83. A vapor recovery monitoring system that monitors vapor recovered during refueling of a vehicle and returned back to an underground storage tank in a service station environment, comprising:

a fuel dispensing point that delivers fuel from the underground storage tank to the vehicle;

a vapor flow sensor operatively connected to a vapor return line of said fuel dispensing point to measure the amount of vapor flow captured by said fuel dispensing point to be returned back to the underground storage tank; and

a central electronic control that receives information from said vapor flow sensor relating to said amount of vapor flow recovered by said fuel dispensing point, wherein said central electronic control registers a leak in said fuel dispensing point if said vapor flow sensor registers a reverse vapor flow when said fuel dispensing point is idle.

84. The system of claim 83, further comprising a meter that measures that amount of fuel delivered by said fuel dispensing point.

85. The system of claim 84, wherein said central electronic control calculates a ratio of vapor flow to fuel flow for said fuel dispensing point by dividing said amount of vapor flow by said amount of fuel flow.